

We claim:

1. A method of at least one of increasing airflow around a plurality of tubes in a heat exchanger, and increasing a web in a header around such plurality of tubes, said method comprising  
5 the steps of:

- a) providing a predetermined plurality of tubes having a predetermined end configuration;
- b) providing a header having a predetermined number of openings, in a predetermined staggered array,  
10 corresponding to said predetermined plurality of tubes, disposed in said heat exchanger; and
- c) securing an end of each said predetermined plurality of tubes into said predetermined number of openings in said header.

15 2. A method, according to claim 1, wherein forming said predetermined staggered array includes the additional step of identifying a direction of airflow.

20 3. A method, according to claim 2, wherein forming said predetermined staggered array includes the additional step of determining at least one of a row pitch and a tube pitch of said predetermined number of openings.

4. A method, according to claim 3, wherein forming said predetermined staggered array includes the additional step of aligning at least one of said row pitch and said tube pitch with respect to said airflow.

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5. A method, according to claim 4, wherein forming said staggered array further includes arranging said predetermined plurality of tubes such that said row pitch and said tube pitch are spaced substantially identical.

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6. A method, according to claim 5, wherein forming said staggered array further includes arranging said predetermined plurality of tubes such that said row pitch and said tube pitch are spaced to allow for an acceptable amount of web material between said predetermined number of openings.

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7. A method, according to claim 6, wherein said row pitch and said tube pitch are spaced at about 45-degree increments.

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8. A method, according to claim 6, wherein said acceptable amount of web material between said predetermined number of openings allows for predetermined operations to secure said predetermined plurality of tubes into said predetermined plurality of openings in said header.

9. A method, according to claim 8, wherein said predetermined operations include at least one of a mechanical bonding and non-mechanical bonding said predetermined plurality of tubes ends into said predetermined plurality of openings.

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10. A method, according to claim 9, wherein said mechanical bonding includes at least one of rolling and machining.

11. A method, according to claim 9, wherein said non-  
10 mechanical bonding includes at least one of welding, brazing, and adhesive.

12. A method, according to claim 1, wherein said predetermined end configuration is generally oblong in shape.

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13. A method, according to claim 1, wherein said predetermined plurality of tubes provided in step (a) are generally oblong in shape along substantially an entire length thereof.

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14. A method, according to claim 13, wherein said predetermined plurality of tubes provided in step (a) is at least two.

15. A method, according to claim 1, wherein configuring of said predetermined number of openings is created substantially identical to said predetermined end configurations of said predetermined plurality of tubes.

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16. A method, according to claim 1, wherein step (c) further includes creating a fluid seal.

17. A method, according to claim 16, wherein creating said  
10 fluid seal is accomplished by at least one of a mechanical bond and a non-mechanical bond.

18. A method, according to claim 17, wherein said mechanical bond includes at least one of rolling and machining.

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19. A method, according to claim 17, wherein said non-mechanical bond includes at least one of welding, brazing, and adhesive.

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